



May 7, 2009

Mr. Charles Terreni
Chief Clerk/Administrator
South Carolina Public Service Commission
Post Office Drawer 11649
Columbia, South Carolina 29211

Re: Docket No. 2009-1-E

Dear Mr. Terreni:

Enclosed for filing in the subject docket is the direct testimony of Carolina Power & Light Company, d/b/a Progress Energy Carolinas, Inc. witnesses Bruce P. Barkley and Dewey S. Roberts, II. In accordance with Commission directive in Docket No. 2005-83-A, also enclosed is a Notice of Filing. All parties of record have been served.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Len S. Anthony', with a large, stylized loop at the end.

Len S. Anthony
General Counsel
Progress Energy Carolinas, Inc.

LSA:mhm

cc: Mr. John Flitter
All Parties of Record

Enclosure

STAREG405

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKETING DEPARTMENT

NOTICE OF FILING

DOCKET NO. 2009-1-E

CAROLINA POWER & LIGHT COMPANY d/b/a PROGRESS ENERGY CAROLINAS, INC.
- ANNUAL REVIEW OF BASE RATES FOR FUEL COSTS.

S.C. Code Ann. Section 58-27-865 (Supp. 2004) established a procedure for annual hearings to allow the Commission and all interested parties to review the fuel purchasing practices and policies of the Company and for the Commission to determine if any adjustment in the fuel cost recovery mechanism is necessary and reasonable.

On May 7, 2009 Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. ("the Company") submitted testimony in support of a change in rates based solely on the cost of fuel during the period March 1, 2008 through February 28, 2009 and forecasted cost of fuel for the period from March 1, 2009 through June 30, 2010.

The Company has requested that the Commission reduce the base fuel factor established in Docket No. 2008-1-E by .149 cents per kWh. The current base fuel factor is 3.151 cents per kWh, and the reduction is the difference between the current factor and the requested factor of 3.002 cents per kWh.

For the Residential class, the Company requested that the Commission reduce the environmental cost component by .079 cents per kWh. The current environmental cost component is .115 cents per kWh, and the reduction is the difference between the current factor and the requested factor of .036 cents per kWh. Additionally, the Company has requested that its residential base fuel factor be increased by .025 cents per kWh to account for discounts of 5% that are provided to residential customers served under Rider RECD-2B. The total reduction requested is .203 cents per kWh, and the total reduction is the difference between the total current fuel cost factor of 3.266 cents per kWh and the requested total fuel cost factor of 3.063 cents per kWh.

For the General Service (non-demand) class, the Company requested that the Commission reduce the environmental cost component by .094 cents per kWh. The current environmental cost component is .125 cents per kWh, and the reduction is the difference between the current factor and the requested factor of .031 cents per kWh. The total reduction requested is .243 cents per kWh, and the total reduction is the difference between the total current fuel cost factor of 3.276 cents per kWh and the requested total fuel cost factor of 3.033 cents per kWh.

For the General Service (demand) class, the Company requested that the Commission reduce the environmental cost component by 15 cents per kW. The current environmental cost component

is 26 cents per kW, and the reduction is the difference between the current factor and the requested factor of 11 cents per kW.

For the Lighting class, the Company requested that the Commission make no change to the current environmental cost of .000 cents per kWh. The total reduction requested is .149 cents per kWh, and the total reduction is the difference between the total current fuel cost factor of 3.151 cents per kWh and the requested total fuel cost factor of 3.002 cents per kWh.

Public Service Commission of SC
Attention: Docketing Department
PO Drawer 11649
Columbia, SC 29211

Date: May 7, 2009

BEFORE

THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2009-1-E

IN RE:
Annual Review of Base Rates for Fuel Costs
of Carolina Power and Light Company d/b/a
Progress Energy Carolinas, Incorporated

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CERTIFICATE OF SERVICE

I, Len S. Anthony, hereby certify that the Testimonies of Dewey S. Roberts II and Bruce P. Barkley on behalf of Progress Energy Carolinas, Inc. have been served on all parties of record either by hand delivery, e-mail, or by depositing said copy in the United States mail, postage prepaid, addressed as follows:

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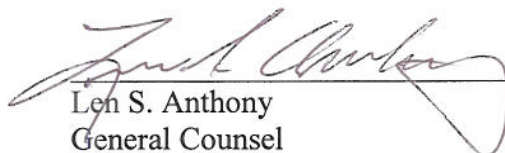
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This 7th day of May, 2009.



Len S. Anthony
General Counsel

**PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
DOCKET NO. 2009-1-E
DIRECT TESTIMONY OF
PROGRESS ENERGY CAROLINAS, INC.**

WITNESS DEWEY S. ROBERTS II

1 **Q. Mr. Roberts will you please state your full name, occupation, and address?**

2 **A.** My name is Dewey S. Roberts II (Sammy). I am employed by Progress Energy
3 Carolinas, Inc. (PEC) as Manager – Power System Operations in the Transmission
4 Operations and Planning Department. My business address is 3401 Hillsborough
5 St, Raleigh, North Carolina.

6 **Q. Please summarize briefly your educational background and experience.**

7 **A.** I graduated from North Carolina State University in 1987 with a B.S. Degree in
8 Electrical Engineering. I also obtained a Master of Science Degree in Electrical
9 Engineering from North Carolina State University in 1990 and a Master of Business
10 Administration Degree from North Carolina State University in 2004. I am a
11 member of the Institute of Electrical and Electronics Engineers (IEEE). I am also a
12 registered Professional Engineer in the state of North Carolina and I am recognized
13 as a Certified System Operator by the North American Electric Reliability
14 Corporation. I joined the Company in 1990 and have held several engineering and
15 management positions in Nuclear Engineering, Engineering and Technical
16 Services, System Operator Training, Portfolio Management, Transmission Services,
17 and Power System Operations. These positions include: Project Engineer, Manager
18 - Transmission Services, and Manager-Power System Operations. In November
19 2003, I assumed the position of Manager – Power System Operations in the Power

1 System Operations Section of Progress Energy Carolinas, Inc. System Planning and
2 Operations Department. In my current position as Manager-Power System
3 Operations, I am responsible for managing the safe, reliable, economic, and
4 NERC/FERC and environmentally compliant operations for the Progress Energy
5 Carolinas' eastern and western balancing authority area power systems.

6 **Q. What is the purpose of your testimony?**

7 **A.** The purpose of my testimony is to review the operating performance of the
8 Company's nuclear, fossil, combined cycle, combustion turbine, and hydroelectric
9 generating facilities during the period of March 1, 2008 through February 28, 2009
10 and demonstrate that PEC prudently operated its system for the period under
11 review.

12 **Q. Describe the types of generating facilities owned and operated by the**
13 **Company.**

14 **A.** The Company owns and operates a diverse mix of generating facilities consisting of
15 four (4) hydro plants, forty six (46) combustion turbines, three (3) combined cycle
16 units, nineteen (19) fossil steam generating units, and four (4) nuclear units.

17 **Q. Why does the Company utilize such a diverse mix of generating facilities?**

18 **A.** Each type of facility has different operating and installation costs and is generally
19 intended to meet a certain type of loading situation. In combination, the diversity of
20 the system, in conjunction with power purchases made when doing so is more cost-
21 effective than using a Company owned generating unit, allows the Company to
22 meet the continuously changing customer load pattern in a reasonable, cost-
23 effective manner. The combustion turbines, which have relatively low installation

1 costs but higher operating costs, are intended to be operated infrequently, typically
2 only during times of peak electricity demand. They also provide resources that can
3 be started in a relatively short time for emergency situations. In contrast, the large
4 coal and nuclear steam generating plants have relatively high installation costs with
5 lower operating costs, and are intended to operate in a manner to meet the constant
6 level of demand on the system. Based on the load level that the Company is called
7 on to serve at any given point in time, the Company selects the combination of
8 facilities and power purchases which will produce electricity in the most
9 economical manner, giving due regard to reliability of service and safety. This total
10 cost optimization approach provides for overall minimization of the total cost of
11 providing service.

12 **Q. Please elaborate on the intended use of each type of facility the Company uses**
13 **to generate electricity.**

14 **A.** As a general rule, peaking resources such as combustion turbines, are constructed
15 with the intention of running them very infrequently, i.e., only during peak or
16 emergency conditions. Combustion turbines are very effective in providing reserve
17 capacity because they can be started quickly in response to a sharp increase in
18 customer demand, without having to continuously operate the units. Intermediate
19 facilities are intended to operate in a load following manner with periodic startups.
20 They are best utilized to respond to the more predictable system load patterns
21 because the intermediate facilities take some time to bring on-line from a cold shut
22 down state. Additionally, these plants, located across the Company's service
23 territory, contribute to overall system reliability. The Company's intermediate

1 facilities are predominately our natural gas fired combined cycle unit and older
2 coal-fired plants . They generally operate in a load following mode, being ramped
3 up and ramped down to meet system needs. Baseload facilities are intended and
4 designed to operate on a near continuous basis with the exception of outages for
5 required maintenance, modifications, repairs, major overhauls, or for refueling in
6 the case of nuclear plants. The Company's four nuclear units, five Person County
7 coal units, and two Asheville Plant coal units constitute the Company's baseload
8 facilities.

9 **Q. How much electricity was generated by each type of Company generating unit**
10 **in the 12 month period ending February 28, 2009?**

11 **A.** For the twelve-month period ending February 28, 2009, the Company generated
12 60,692,459 megawatt hours of electricity. Nuclear plants generated 46.17%, fossil
13 plants generated 48.32%, combined cycle and combustion turbine units generated
14 4.79%, and hydroelectric units generated 0.71% of the total amount of electricity
15 generated.

16 **Q. How does the Company ensure that it operates these types of generating**
17 **facilities as economically as possible?**

18 **A.** The Company has a central Energy Control Center which monitors the electricity
19 demands within our service area. The Energy Control Center regulates and
20 dispatches available generating units in response to customer demand in a least cost
21 manner. Sophisticated computer control systems match the changing load with
22 available sources of power. Personnel at the Energy Control Center, in addition to
23 being in contact with the Company's generating plants, are also in communication

1 with other utilities bordering our service territory. In the event a plant is suddenly
2 forced off-line, the interconnections with neighboring utilities help to ensure that
3 service to our customers will go uninterrupted. Additionally, the interconnections
4 allow us to purchase power from neighboring utilities with unloaded capacity so
5 that our customers will be served by the lowest cost power available through inter-
6 utility purchases.

7 **Q. How does the Company determine when it needs to purchase power?**

8 **A.** The Company is constantly reviewing the power markets for purchase
9 opportunities. We buy when there is reliable power available that is less expensive
10 than the marginal cost of the Company's available resources. This review of the
11 power markets is done on an hourly, daily, weekly, monthly basis. Also, with
12 regard to long term resource planning, we always evaluate purchased power
13 opportunities against self build options.

14 **Q. During the review period March 1, 2008 through February 28, 2009, did the**
15 **Company prudently operate its generating system within the guidelines**
16 **discussed in regard to the three types of facilities?**

17 **A.** Yes. Two different measures are utilized to evaluate the performance of generating
18 facilities. They are equivalent availability factor and capacity factor. Equivalent
19 availability factor refers to the percent of a given time a facility was available to
20 operate at full power if needed. Capacity factor measures the generation a facility
21 actually produces against the amount of generation that theoretically could be
22 produced in a given time period, based on its maximum dependable capacity.
23 Equivalent availability factor describes how well a facility was operated, even in

1 cases where the unit was used in a load following application. Our combustion
2 turbines averaged 93.30% equivalent availability and a 4.46% capacity factor for
3 the twelve-month period ending February 28, 2009. These performance indicators
4 are consistent with the combustion turbine generation intended purpose. The
5 generation was almost always available for use, but operated minimally. Our
6 intermediate gas-fired combined cycle unit averaged 92.13% equivalent availability
7 and a 42.42% capacity factor for the twelve-month period ending February
8 28, 2009. Again, this level of operation is consistent with the facility's intended
9 purpose, that being a load following position after our intermediate fossil plants.
10 Our intermediate (or cycling) coal fired units, had an average equivalent availability
11 factor of 87.07% and a capacity factor of 53.47% for the twelve-month period
12 ending February 28, 2009. Again, these performance indicators are indicative of
13 good performance and management for intermediate, load following facilities. Our
14 fossil baseload units had an average equivalent availability of 90.44% and a
15 capacity factor of 69.13% for the twelve-month period ending February 28, 2009.
16 Thus, the fossil baseload units were also well managed and operated. For the
17 twelve-month period ending February 28, 2009, the Company's nuclear generation
18 system achieved an actual capacity factor of 91.88%. Excluding outage time
19 associated with reasonable outages, such as refueling, the nuclear generation
20 system's net capacity factor for this period rises to 101.9%. Therefore, pursuant to
21 S.C. Code Ann. § 58-27-865(F), since the adjusted capacity factor exceeds 92.5%,
22 the Company is presumed to have made every reasonable effort to minimize the
23 cost associated with the operation of its nuclear generation.

1 **Q: How did the performance of the Company's nuclear system compare to the**
2 **industry average?**

3 **A:** As mentioned in the response to the previous question, during the period March 1,
4 2008 through February 28, 2009, the Company's nuclear generation system
5 achieved an actual capacity factor of 91.88%. In contrast, the NERC five-year
6 average capacity factor for 2003-2007 for all commercial nuclear generation in
7 North America was 88.23%. The Company's nuclear system incurred a 3.07%
8 forced outage rate during the twelve-month period ending February 28, 2009
9 compared to the industry average of 3.89%. These performance indicators reflect
10 good nuclear performance and management for the review period.

11 **Q. How did the Company's fossil units perform as compared to the industry?**

12 **A.** Our entire fossil steam generation fleet operated well during the 12 months ending
13 February 28, 2009, achieving an equivalent availability factor of 90.24% for this
14 period. This performance indicator exceeds the most recently published NERC
15 average equivalent availability for coal plants of 84.81%. The NERC average
16 covers the period 2003-2007 and represents the performance of 894 coal-fired units.
17 Equivalent availability is a more meaningful measure of performance for coal
18 plants than capacity factor because the output of our fossil units varies significantly
19 depending on the level of system load. For the twelve-month period ending
20 February 28, 2009, our baseload fossil units, Asheville 1 and 2, Mayo Unit 1, and
21 Roxboro Units 1, 2, 3, and 4, operated at equivalent availabilities of 86.99%,
22 88.76%, 95.40%, 85.33%, 90.15%, 89.02%, and 97.42% respectively. Asheville 1
23 and 2 have relatively lower equivalent availabilities due to scheduled boiler

1 inspection and tube replacement outages during the spring and fall of 2008.
2 Roxboro 1 had a relatively lower equivalent availability due to a major turbine
3 outage and scrubber installation that occurred in the fall 2008.

4 As I mentioned earlier, the baseload coal units achieved an average equivalent
5 availability of 90.44%. These performance indicators compare well with the
6 industry weighted average equivalent availability factor of 84.33% for 173
7 similarly sized fossil units.

8 **Q. How did the Company's hydroelectric units perform during the review**
9 **period?**

10 **A.** The usage of the hydro facilities on the Company's system is limited by the
11 availability of water that can be released through the turbine generators. The
12 Company's hydro plants have very limited ponding capacity for water storage. The
13 Company operates the hydro plants to obtain the maximum generation from them;
14 but because of the small water storage capacity available, the hydro units have been
15 primarily utilized for peaking and regulating purposes. This operation maximizes
16 the economic benefit of the units. The hydroelectric units had an equivalent
17 availability of 98.05% and operated at a capacity factor of 21.76% for the twelve-
18 month period ending February 28, 2009. The 5 year industry average for
19 hydroelectric generation as published in NERC's most recent report reflects an
20 average equivalent availability of 86.98% and an average capacity factor of
21 41.52%. These performance indicators show that the Company managed the
22 hydroelectric facilities well, keeping them almost always available for economic
23 use when water was available.

1 **Q. Are you presenting any exhibits with your testimony?**

2 **A. Yes. Roberts Exhibit No. 1 is a graphic representation of the Company's generation**
3 **system operation for the twelve-month period ending February 28, 2009.**

4 **Q. Did the Company prudently operate and dispatch its generation resources**
5 **during the period March 1, 2008 through February 28, 2009 in order to**
6 **minimize its fuel costs?**

7 **A. Yes.**

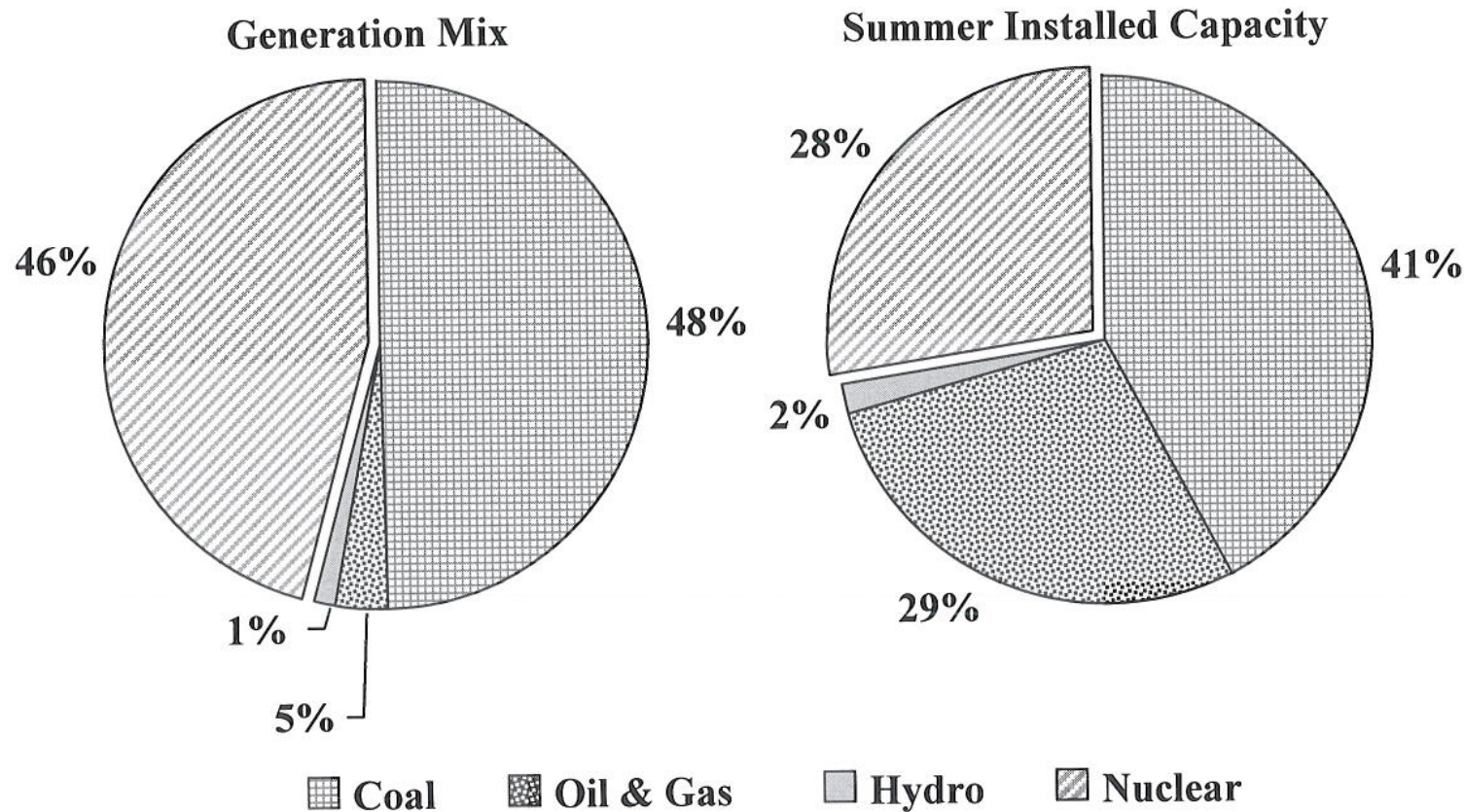
8 **Q. Does this conclude your testimony?**

9 **A. Yes.**

10

11 STAREG398

**Comparison of Progress Energy Carolinas
Installed Generating Capacity
to Actual Generation Mix
March 1, 2008 through February 28, 2009**



**PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
DOCKET NO. 2009-1-E
DIRECT TESTIMONY OF PROGRESS ENERGY CAROLINAS, INC.**

WITNESS BRUCE P. BARKLEY

1 **Q. Please state your name, address, and position.**

2 A. My name is Bruce P. Barkley and my business address is 410 S. Wilmington Street,
3 Raleigh, North Carolina. My position is Manager–Fuel Forecasting and Regulatory
4 Support for Progress Energy Carolinas, Inc. (“PEC” or “Company”)

5 **Q. Please describe your educational background and professional experience.**

6 A. I obtained a Bachelor of Science Degree in Business Administration with a
7 concentration in Accounting from the University of North Carolina at Chapel Hill
8 in 1984 and an MBA Degree from Wake Forest University in 1999. I obtained my
9 CPA license in 1987. I joined Progress Energy in the Regulatory Services Section
10 in 2001 and transferred to my current position in the Fuels Department in 2005. I
11 am responsible for fuel forecasting, fuel reporting and associated regulatory
12 matters.

13 **Q. Have you previously presented testimony regarding fuel clauses?**

14 A. Yes, I have testified in PEC’s 2003-2008 fuel cost proceedings before the Public
15 Service Commission of South Carolina (“PSC”) and in numerous fuel cases before
16 the North Carolina Utilities Commission.

17 **Q. What is the purpose of your testimony?**

18 A. The purpose of my testimony is to:

- 19 • Describe PEC’s fuel procurement practices and costs for the historical
20 period under review in this proceeding, March 2008 through February 2009
21 and support the reasonableness of these costs.

- 1 • Present projected fuel costs for the period March 2009 through June 2010.
- 2 • Recommend fuel factors to be effective July 1, 2009.

3 My testimony will include a review of historical and projected environmental costs
4 and a recommended rate for recovery of these costs. The environmental portion of
5 the fuel rate includes the cost of ammonia and limestone used in the process of
6 reducing sulfur dioxide (SO₂) and nitrous oxide (NO_x) emissions and the cost of
7 SO₂ and NO_x emission allowances. I will provide thirteen exhibits to support my
8 testimony.

9 **Q. Please describe the Company's coal procurement practices.**

10 A. PEC continues to follow the same procurement practices that it has historically
11 followed. These practices include determining and continuous monitoring of fuel
12 consumption and inventory requirements; maintaining a list of qualified suppliers;
13 conducting formal requests for proposals on a staggered basis; prudently combining
14 market purchases and long term contracts and monitoring supplier and rail
15 performance. A summary of these practices is shown on Barkley Exhibit No. 13.

16 **Q. Please summarize key fuel cost and inventory information for the review**
17 **period.**

18 A. Barkley Exhibit No. 1 summarizes PEC's fossil fuel costs for the review period,
19 including quantities purchased and consumed and the beginning and ending
20 inventory levels. The price of delivered coal increased by \$16.23 per ton, (22%),
21 as compared to the prior review period, to approximately \$89/ton. I will address
22 changes in the price of coal later in my testimony. The inventory levels maintained
23 by PEC for both coal and oil ensured that an adequate supply of these fuels was

1 available to meet customer needs during the review period at a reasonable cost.

2 The price of natural gas also increased during the current review period by
3 \$1.10/mmbtu, (12%).

4 **Q. Please describe the state of the coal market during the historical review**
5 **period.**

6 A. Barkley Exhibit No. 2 illustrates the movement of coal prices since 2005, most
7 notably the significant volatility of prices experienced during 2008. During the
8 first half of 2008, market prices for non-compliance Central Appalachia (CAPP)
9 coal delivered via the Norfolk & Southern (NS) railway increased from \$60 per ton
10 to more than \$150 per ton. Similar increases were experienced for all types of coal
11 from the CAPP region. This unprecedented surge in coal prices was driven by
12 many factors. The primary cause was the huge demand for coal-fired electricity in
13 China, India and other developing nations. As discussed in my testimony in
14 Docket No. 2008-1-E, some specific situations hastened the rise in prices
15 experienced during the first half of 2008. These situations included a self-imposed
16 moratorium on coal exports by China as extreme winter weather combined with
17 growing demand led to electrical shortages there. Australia experienced severe
18 flooding which hampered mining and shipping delays. South Africa experienced
19 mining problems due to electrical shortages. Russian exports were interrupted by
20 rail car shortages and political disputes. These events increased the demand for
21 South American and US coal in the European market. The devaluation of the US
22 dollar also made US coal attractive in Europe. Finally, the fact that coal, even at
23 the elevated prices experienced, was less expensive than natural gas or oil

1 alternatives on a BTU basis further supported an increase in US coal exports and
2 higher coal prices.

3 Prices moved dramatically lower during the second half of 2008 and into 2009 for
4 both coal and natural gas as a result of falling demand caused by the deteriorating
5 worldwide economy. Coal prices moved from the \$150 per ton range down to the
6 \$50 per ton range and natural gas declined from a high of approximately
7 \$13/mmbtu during the summer of 2008 down to below \$4/mmbtu currently.

8 **Q. What are PEC's expectations for the forecasted ending June 30, 2010?**

9 A. As shown on my Exhibit No. 2, the market price of coal is expected to increase
10 during the forecasted period. Demand is expected to increase as the economy
11 begins to recover and the challenges faced by coal mining companies to maintain or
12 expand supply coal continue. Factors impacting coal supply include shortage of
13 labor, difficult permitting requirements for new mines and increased costs
14 associated with miner safety and environmental regulations. PEC projects that its
15 cost of coal for the forecasted period will be approximately \$67 per ton during the
16 forecasted period, relatively consistent with the approximately \$63 per ton
17 experienced during the review period. Most of PEC's coal continues to be received
18 under contracts ranging from one to three years in duration.

19 **Q. Please provide an update on PEC's ability to burn higher sulfur coal.**

20 A. PEC has installed scrubbers at its Asheville, Roxboro and Mayo plants and has the
21 capability to burn higher sulfur coal for approximately 75% of its annual
22 requirement. Scrubbers are pollution control devices that utilize limestone to reduce
23 the emission of SO₂. As with the procurement of any product, the increased

1 flexibility in coal selection will likely provide benefits as PEC seeks future
2 supplies. However, the cost advantage that previously existed on a delivered basis
3 for high sulfur coals from Northern Appalachia and the Illinois Basin has eroded as
4 a result of greater demand for these coals and its associated increased railroad
5 transportation costs. PEC will continue to monitor and assess the relative costs of
6 higher and lower sulfur coals, their BTU content, and transportation costs and
7 select the most cost effective mix of coals available to meet its fuel needs while
8 also considering the costs of the reagents necessary to operate scrubbers in order to
9 meet environmental requirements. At this time, the most economical coal for PEC's
10 units with installed scrubbers is sourced from the CAPP region and contains
11 approximately 2.5 pounds of SO₂/mmbtu. Low sulfur compliance coal which
12 previously represented approximately one-third of PEC's annual consumption will
13 no longer be required at the units with installed scrubbers. For the units that do not
14 currently have scrubbers installed, the most economical coal is also sourced from
15 the CAPP region and contains an average sulfur content of approximately 2.0
16 pounds of SO₂/mmbtu.

17 **Q. How does the Company make its coal selection decisions?**

18 A. Evaluations of PEC's long-term and short-term coal needs are made from the
19 standpoint of obtaining a reliable supply of coal at the lowest total cost. Items
20 considered include coal price, coal quality, transportation cost, operating costs such
21 as the limestone and ammonia needed to operate pollution control devices,
22 maintenance costs, emission allowance costs and any associated capital costs.

1 PEC uses a wide variety of procurement options through its supplier bidding
2 process in order to obtain the best-priced coal for its generating fleet.

3 **Q. Please describe PEC's policies associated with long term coal contracting.**

4 A. PEC hedges its coal costs by entering into long term contracts at fixed prices for a
5 significant portion of its projected coal needs. Any additional coal requirements
6 are purchased on the spot market as needed to maintain inventories. PEC staggers
7 contract expiration dates so that a portion of the contracts expires each year and is
8 replaced with new contracts of corresponding duration, similar to the investing
9 strategy known as dollar cost averaging. PEC targets a minimum of 85% of its
10 projected needs for the current year to be under contract. The minimum amount
11 under contract targets are 60%, 40%, 20% and 5% for years 2-5. Contracts beyond
12 five years may be pursued if appropriate terms and conditions can be established.
13 This structure of tiered contracts provides a reasonable degree of cost stability and
14 allows the Company to respond appropriately to market trends, either upward or
15 downward. PEC has entered contracts for over 99% of its coal requirements for the
16 forecasted period ending June 30, 2010. These contracts will enhance the
17 reliability of coal supply over the forecasted period and reduce price volatility.

18 **Q. How is coal transported to PEC?**

19 A. Coal is generally transported by rail using either the CSX railway or the NS
20 railway. PEC receives a limited amount of coal by truck at Asheville and has
21 received foreign coal by barge at the Sutton Plant located near Wilmington, NC.
22 The Roxboro and Mayo plants, PEC's largest coal plants, and the Asheville plant
23 are served solely by NS. The Robinson, Weatherspoon, and Sutton Plants are

1 served solely by CSX. The Lee and Cape Fear Plants can be served by either CSX
2 or NS. To minimize transportation costs, PEC negotiates the most advantageous
3 rates reasonably possible. PEC, through a consortium of shippers, participates in
4 proceedings before the Federal Surface Transportation Board in an attempt to lower
5 its rail costs. PEC's use of water and truck transportation demonstrates its
6 commitment to diversification of coal transportation.

7 **Q. What changes are expected for transportation costs during the forecasted**
8 **period?**

9 A. PEC projects a decrease in freight costs from approximately \$26 per ton
10 experienced during the review period to approximately \$23 per ton in the
11 forecasted period. The decrease is primarily based on significantly reduced fuel
12 surcharges which are linked to the price of crude oil. Railroad companies are able
13 to pass along increases in their fuel costs based upon the price of crude oil which
14 currently stands at approximately \$50 per barrel as opposed to prices that reached
15 up to \$147 per barrel during 2008. PEC signed a new contract with CSX during
16 2008 that impacted roughly one-half of the review period and which will be fully in
17 effect for the forecasted period. CSX currently delivers approximately 15% of
18 PEC's coal requirements. The new CSX contract is at higher rates than the prior
19 contract, but the reduced fuel surcharges for both NS and CSX offset this increase.

20 **Q. What steps has PEC taken to reduce coal costs in light of the significant**
21 **increase in market prices experienced over the past two years?**

22 A. As outlined in Barkley Exhibit No. 13, PEC carefully monitors supplier and freight
23 performance to ensure compliance with established contracts. As mentioned

1 earlier, PEC continuously evaluates the market for higher and lower sulfur coals,
2 maintaining maximum supply flexibility and the opportunity for potential cost
3 savings. PEC will also continue to adhere to its disciplined strategy of procuring
4 most of its coal under contractual arrangements of varying lengths and vintages.

5 **Q. Please describe your procurement practices for natural gas.**

6 A. PEC follows a process that is very similar to that discussed earlier for coal.
7 Production costing models are used to project future demands. Based on the
8 projections, solicitations are made, bids received, and contracts are established to
9 cover a minimum of 75% of the projected requirement for the coming year and
10 60% of firm needs for a period of up to five years. Long term contracts are
11 established and maintained for gas transportation. Commodity contracts are
12 established on terms of up to five years. Typically, commodity contracts are
13 established on the basis of recognized industry price indices. On a short term basis,
14 additional purchases on the spot market are made as needed.

15 **Q. Please describe the state of the natural gas market and PEC's expectations for**
16 **the forecasted period?**

17 A. Natural gas market prices are shown on Barkley Exhibit No. 3. During the first
18 half of 2008, natural gas prices reached extremely high levels in response to crude
19 oil prices which set records of approximately \$147 per barrel, strong demand for
20 natural gas worldwide and decreased levels of domestic storage as compared to
21 historical highs experienced in 2007. The availability of liquefied natural gas
22 (LNG) did not dampen prices as strong economic growth in developing nations,
23 cold weather in Europe and nuclear outages in Japan contributed to strong

1 worldwide demand for LNG. As with coal, natural gas market prices have declined
2 dramatically over the past nine months in light of the poor global economic
3 conditions. Including hedges and excluding fixed costs, PEC's forecasted
4 delivered cost of natural gas for the year ending June 30, 2010 is \$7.44/mmbtu
5 which is approximately \$2/mmbtu lower than costs incurred during the review
6 period.

7 **Q Please discuss PEC's hedging practices for coal and natural gas.**

8 A. The most significant hedging practice that PEC employs is the fuel diversity of its
9 generation resources as discussed by PEC Witness Roberts. PEC continues to
10 purchase coal primarily through long term contracts at fixed prices. PEC began
11 executing fixed price contracts for a portion of its natural gas requirements in 2005
12 in response to increased natural gas consumption and the volatility of natural gas
13 market prices. Most of PEC's gas hedges for the review and forecasted periods
14 utilize financial fixed price contracts to reduce price volatility and provide
15 improved rate stability for customers. PEC's target for natural gas price assurance
16 is a range of 50% to 80% of estimated consumption for the current year. Ranges
17 decrease progressively in succeeding years.

18 **Q. Does PEC purchase power and how are these costs recorded?**

19 A. Yes. As explained by PEC witness Roberts, PEC continually evaluates purchasing
20 power if it can be reliably procured and delivered at a price that is less than the
21 variable cost of PEC's generation. In accordance with S.C. Code Ann. § 58-27-
22 865(A), PEC includes the lower of the purchase price or PEC's avoided variable
23 cost for generating an equivalent amount of power for its economy purchases.

1 Additionally, PEC purchases power from certain vendors that is treated as a firm
2 generation capacity purchase. In accordance with the statute, all of these costs are
3 recorded as recoverable fuel costs with the exception of capacity charges.

4 **Q. Please explain Barkley Exhibit No. 4**

5 A. Barkley Exhibit No. 4 is a summary of PEC's actual system fuel cost and kilowatt-
6 hour sales experienced during the period March 2008 through February 2009.
7 Total system fuel costs were \$1,565,495,538 and the total sales were
8 54,046,280,326 kilowatt-hours (kWh) for an annual average of 2.897 cents per
9 kWh.

10 **Q. How did the fuel revenue billings compare to the actual fuel costs incurred**
11 **during the historical period March 2008 through February 2009?**

12 A. Barkley Exhibit No. 5 is a monthly comparison of fuel revenues billed to South
13 Carolina retail customers to the actual fuel costs attributable to those sales. During
14 the review period, PEC's under-recovery of fuel costs decreased from \$14.5 million
15 to \$10.3 million.

16 **Q. Please explain Barkley Exhibit No. 6.**

17 A. Barkley Exhibit No. 6 presents PEC's recommended fuel rate of 3.002 ¢/kWh for
18 the 12-month period July 2009 through June 2010, consisting of a component for
19 recovery of projected fuel expense of 2.923¢/kWh and a component to collect the
20 projected under-recovery at June 30, 2009 of .079¢/kWh. The projected under-
21 recovery at June 30, 2009 is \$5.4 million.

22 The fuel forecast supporting the projected fuel cost was generated by an hourly
23 dispatch model that considers the latest forecasted fuel prices, outages at the

1 generating plants based on planned maintenance and refueling schedules, forced
2 outages based on historical trends, generating unit performance parameters and
3 expected market conditions associated with power purchase and off-system sales
4 opportunities.

5 **Q. Please explain Barkley Exhibit No. 7.**

6 A. Barkley Exhibit No. 7 provides projected costs and revenues, by month, for the
7 period March 2009 through June 2010. The exhibit continues the use of the
8 currently approved fuel factor of 3.151¢/kWh through June 2009 and includes
9 PEC's recommended factor of 3.002 ¢/kWh for the period July 2009 through June
10 2010. PEC's proposed fuel factor practically eliminates the deferred fuel balance as
11 of June 30, 2010

12 **Q. Please provide a status update of environmental cost collection and explain**
13 **how these costs have been treated in this filing.**

14 A. In 2007, the General Assembly passed legislation that allows utilities to recover the
15 costs of ammonia, lime, limestone, urea, dibasic acid, catalysts and emission
16 allowance through an annual environmental cost rider. Environmental costs
17 allocated to the SC retail jurisdiction during the review period were approximately
18 \$2.6 million as shown on Barkley Exhibit No. 8. As also shown on Barkley
19 Exhibit No. 8, the deferred account balance for environmental costs changed from a
20 \$1.2 million undercollection at the beginning of the review period to an
21 overcollection of approximately \$381,000 at February 28, 2009.

22 **Q. Have you provided a forecast of environmental costs?**

1 A. Yes. Barkley Exhibit No. 10 provides PEC's estimate of environmental costs for
2 the period from March 2009 through June 2010. The forecasted environmental
3 expenses for the year ending June 30, 2010 are \$23.8 million. The SC retail
4 portion is forecasted to be approximately \$2.9 million which is slightly higher than
5 the amount experienced during the review period. PEC currently estimates that its
6 environmental cost overcollection will approximate \$1 million at June 30, 2009.
7 As shown on Exhibit No. 10, PEC proposes to return this amount to customers
8 during the period from July 2009 through June 2010 and thereby eliminate the
9 deferred account balance as of June 30, 2010.

10 **Q. How did PEC allocate environmental costs?**

11 A. Costs are allocated consistently with the Commission's Order in PEC's 2008 fuel
12 review proceeding, Docket No. 2008-1-E. Costs were allocated to Residential,
13 General Service (non-demand), General Service (demand) and Lighting based upon
14 the coincident peak experienced during the review period. This allocation is shown
15 on Barkley Exhibit No. 9. Rates were designed based on costs allocated to the
16 respective classes and the projected energy consumption for the residential, general
17 service (non-demand) and lighting schedules. The rate for general service
18 (demand) class was based on projected annual demand in a manner consistent with
19 the methodology approved in 2008.

20 **Q. Have you presented PEC's proposed fuel factors?**

21 A. Yes. Barkley Exhibit No. 11 presents proposed fuel rates including an amount
22 added to account for the 5% discount provided to residential customers under

1 PEC's approved Residential Service Energy Conservation Discount Rider RECD-
2 2B.

3 **Q. Why does PEC propose inclusion of the effects of Rider RECD-2B in this**
4 **proceeding?**

5 A. The method historically used by PEC to compare fuel costs with fuel revenue as
6 presented on Barkley Exhibit No. 5 assumes all customers pay the full fuel factor
7 for each kWh consumed. But this is not the case for customers enjoying the 5%
8 discount. As a result, this methodology overstates PEC's fuel revenues and
9 understates the amounts owed to PEC by its customers. PEC should not reflect fuel
10 revenue collections for 100% of its fuel billings while simultaneously providing a
11 5% discount on the total bill as required by Rider RECD-2B. As shown on Barkley
12 Exhibit No. 12, this discount impacts approximately 17% of PEC's SC residential
13 consumption. Beginning July 1, 2009, PEC proposes to reflect monthly fuel
14 revenues excluding the 5% discount.

15 **Q. Why is PEC proposing this change in this proceeding?**

16 A. While PEC has been aware of the impact of Rider RECD-2B for several years, the
17 financial impact has only recently become material as PEC's fuel factor has
18 significantly increased. Thus, PEC has determined that it is now appropriate to
19 address this under collection problem. PEC seeks prospective approval only.

20 **Q. Were PEC's fuel and environmental costs prudently incurred during the**
21 **review period?**

22 A. Yes. PEC's fuel and environmental costs were prudently incurred and accurately
23 recorded and are fully recoverable pursuant to the South Carolina law. As

1 discussed by PEC witness Roberts, PEC prudently operated its generation resources
2 during the period under review in order to minimize its fuel costs and purchased
3 power when doing so was cost effective.

4 **Q. Does that complete your testimony?**

5 **A. Yes, it does.**

PROGRESS ENERGY CAROLINAS, INC.
FUEL CONSUMED, PURCHASED AND INVENTORIED
FOR THE TWELVE MONTHS ENDED FEBRUARY 28, 2009

<u>COAL</u>	<u>Tons</u>	<u>\$/Ton</u>
Consumed	12,040,669	\$86.00
Coal Purchased	12,609,420	\$62.80
Freight Purchased	12,609,420	\$26.10
Total Purchased	12,609,420	\$88.90
\$/mmbtu consumed	\$3.51	

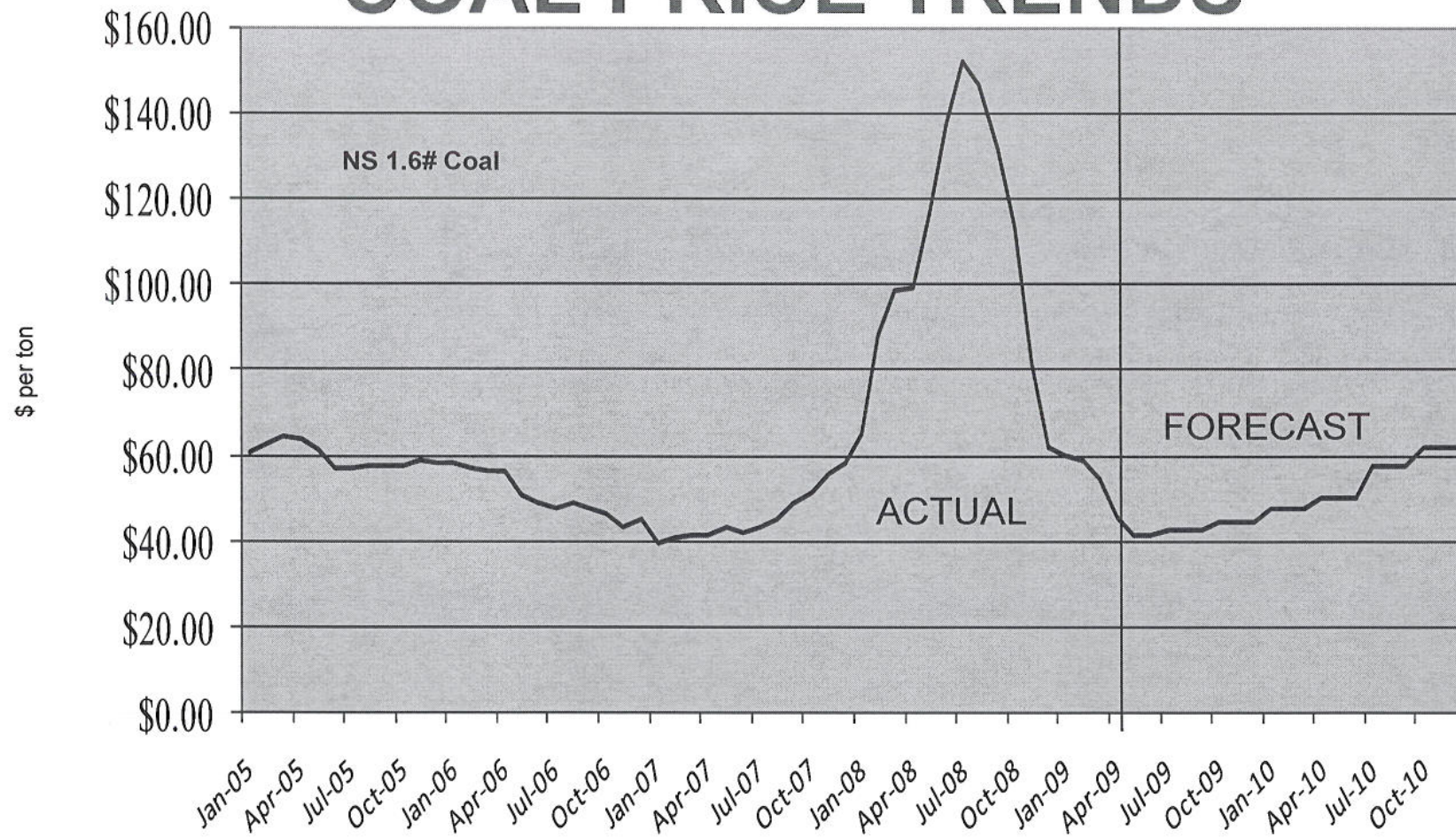
<u>OIL</u>	<u>Gallons</u>	<u>\$/Gallon</u>
Consumed	13,462,545	\$2.15
Purchased	12,929,955	\$2.23
\$/mmbtu consumed	\$15.78	

<u>NATURAL GAS</u>	<u>mmbtu</u>	<u>\$/mmbtu</u>
Consumed	25,249,609	\$10.61
Purchased	25,253,930	\$10.59

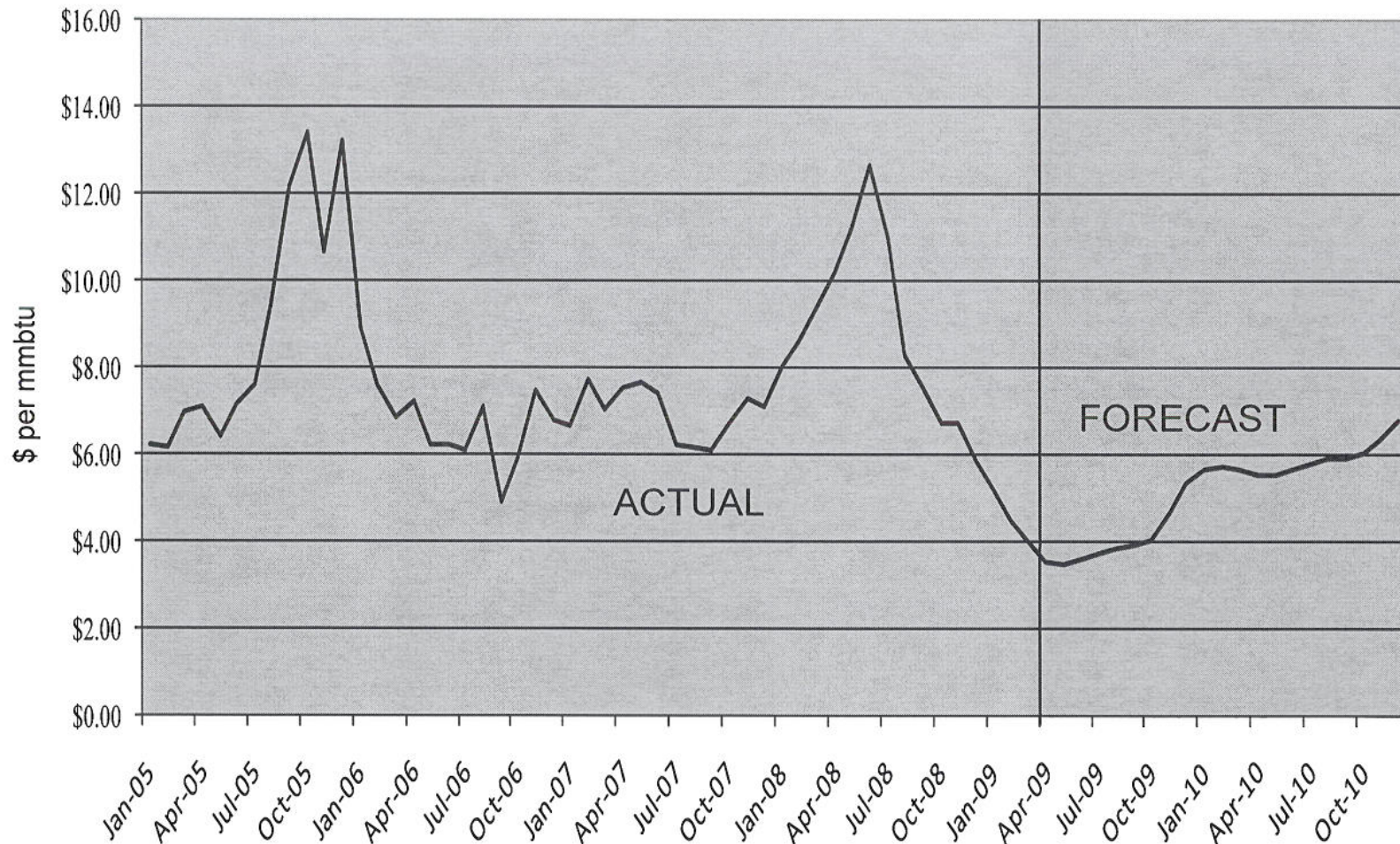
INVENTORIES AS OF FEBRUARY 29/28

	2008 <u>Units</u>	2008 <u>\$/Unit</u>	2009 <u>Units</u>	2009 <u>\$/Unit</u>
Coal (tons)	1,629,562	\$73.92	2,198,314	\$93.73
Oil (gallons)	43,032,441	\$1.72	42,052,346	\$1.73
Natural Gas (mmbtu)	141,259	\$8.46	145,580	\$5.00

COAL PRICE TRENDS



NATURAL GAS PRICE TRENDS



Actual – NYMEX Last Day Settle Prices

Forecast – NYMEX Settle Prices as of 05/01/2009

Henry Hub Prices



PROGRESS ENERGY CAROLINAS, INC.

SYSTEM FUEL COST

SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E
TWELVE MONTHS ENDED FEBRUARY 2009

Line		Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08
(1)	Coal	\$74,314,784.19	\$79,814,243.76	\$64,627,218.70	\$92,545,746.40	\$97,709,653.29	\$97,827,458.58
(2)	Oil - Steam	1,113,284.79	569,256.02	1,571,000.32	874,353.86	730,638.24	809,738.04
(3)	Oil - Turbine	307,814.58	148,530.14	491,084.92	910,438.62	121,733.31	442,194.41
(4)	Gas - Steam	0.00	0.00	0.00	0.00	0.00	0.00
(5)	Gas - Turbine	11,864,583.34	3,816,895.81	5,257,813.44	52,158,519.62	31,462,421.26	38,762,620.02
(6)	Total Fossil	<u>87,600,466.90</u>	<u>84,348,925.73</u>	<u>71,947,117.38</u>	<u>146,489,058.50</u>	<u>130,024,446.10</u>	<u>137,842,011.05</u>
(7)	Nuclear Fuel	8,694,181.06	7,747,519.19	10,929,050.92	10,581,103.15	10,948,392.60	9,856,493.64
(8)	Purchased Power	5,420,878.77	7,254,325.23	10,890,520.55	31,662,270.31	28,751,323.52	43,816,366.43
(9)	Off-System Sales	<u>(11,378,917.89)</u>	<u>(17,040,592.90)</u>	<u>(7,865,936.15)</u>	<u>(13,129,494.89)</u>	<u>(12,765,657.28)</u>	<u>(12,787,976.12)</u>
(10)	Total Fuel Costs	\$90,336,608.84	\$82,310,177.25	\$85,900,752.70	\$175,602,937.07	\$156,958,504.94	\$178,726,895.00
(11)	Total kWh Sales	4,032,680,067	3,944,214,682	4,066,333,611	4,801,980,286	4,973,648,101	5,227,989,878
(12)	Cost per kWh	\$0.02240	\$0.02087	\$0.02112	\$0.03657	\$0.03156	\$0.03419

Line		Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Twelve Months Ended Feb-09
(13)	Coal	\$80,421,316.15	\$72,941,212.54	\$89,046,396.04	\$94,934,069.60	\$107,606,883.41	\$83,684,178.70	\$1,035,473,161.36
(14)	Oil - Steam	1,197,474.94	1,547,367.02	752,885.34	1,413,933.09	754,414.19	919,544.87	12,253,890.72
(15)	Oil - Turbine	184,869.41	1,303,204.01	3,319,114.73	3,019,052.70	4,015,473.62	2,470,875.82	16,734,386.27
(16)	Gas - Steam	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(17)	Gas - Turbine	23,922,619.21	20,186,725.47	26,589,064.90	17,847,604.10	21,369,772.58	14,744,379.98	267,983,019.73
(18)	Total Fossil	<u>105,726,279.71</u>	<u>95,978,509.04</u>	<u>119,707,461.01</u>	<u>117,214,659.49</u>	<u>133,746,543.80</u>	<u>101,818,979.37</u>	<u>1,332,444,458.08</u>
(19)	Nuclear Fuel	9,705,910.99	8,254,594.19	7,164,792.21	10,991,938.21	11,142,020.42	9,906,625.47	115,922,622.05
(20)	Purchased Power	28,747,293.15	21,890,619.95	31,355,585.07	11,849,620.42	15,500,634.37	10,160,807.66	247,300,245.43
(21)	Off-System Sales	<u>(9,406,909.71)</u>	<u>(4,529,595.21)</u>	<u>(5,450,584.56)</u>	<u>(15,846,801.24)</u>	<u>(12,995,735.97)</u>	<u>(6,973,585.33)</u>	<u>(130,171,787.25)</u>
(22)	Total Fuel Costs	\$134,772,574.14	\$121,594,127.97	\$152,777,253.73	\$124,209,416.88	\$147,393,462.62	\$114,912,827.17	\$1,565,495,538.31
(23)	Total kWh Sales	4,922,971,918	4,040,812,569	4,165,354,776	4,360,907,069	4,845,157,296	4,664,230,073	54,046,280,326
(24)	Cost per kWh	\$0.02738	\$0.03009	\$0.03668	\$0.02848	\$0.03042	\$0.02464	\$0.02897

PROGRESS ENERGY CAROLINAS, INC.

Comparison of Actual Fuel Revenues and Expenses
SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E
TWELVE MONTHS ENDED FEBRUARY 2009

Line	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Twelve Months Ended Feb-09
(1) Actual SC Retail Sales [KWH]	487,861,612	507,837,688	486,848,551	668,745,745	537,322,787	621,237,906	6,468,570,245
(2) Actual Fuel Cost [\$ / KWH]	0.02240	0.02087	0.02112	0.03657	0.03156	0.03419	0.02464
(3) Fuel Base [\$ / KWH]	0.02651	0.02651	0.02651	0.02651	0.03151	0.03151	0.03151
(4) Revenue Required [\$]	10,928,100	10,598,573	10,282,241	24,456,032	16,957,907	21,240,124	13,809,693
(5) Revenue Billed [\$]	12,933,211	13,462,777	12,906,355	17,728,450	16,931,041	19,575,206	17,660,042
(6) Over (Under) Recovery [\$]	2,005,111	2,864,204	2,624,114	(6,727,582)	(26,866)	(1,664,918)	3,850,349
(7) Accounting Adjustments [\$]	-	0	(25,391)	29,831	-	-	2,007
(8) Interest [\$]	0	0	0	0	0	0	(1,902,588)
(9) Cumulative Under Recovery [\$]	(12,477,039)	(9,612,835)	(7,014,112)	(13,711,863)	(13,738,729)	(15,403,647)	0
Line	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Twelve Months Ended Feb-09
(10) Actual SC Retail Sales [KWH]	602,076,260	477,219,452	438,179,130	534,197,173	546,585,617	560,458,324	6,468,570,245
(11) Actual Fuel Cost [\$ / KWH]	0.02738	0.03009	0.03668	0.02848	0.03042	0.02464	0.02464
(12) Fuel Base [\$ / KWH]	0.03151	0.03151	0.03151	0.03151	0.03151	0.03151	0.03151
(13) Revenue Required [\$]	16,484,848	14,359,533	16,072,410	15,213,935	16,627,134	13,809,693	187,030,530
(14) Revenue Billed [\$]	18,971,423	15,037,185	13,807,024	16,832,553	17,222,913	17,660,042	193,068,180
(15) Over (Under) Recovery [\$]	2,486,575	677,652	(2,265,386)	1,618,618	595,779	3,850,349	6,037,650
(16) Accounting Adjustments [\$]	(150,040)	0	(1,758,995)	-	-	2,007	(1,902,588)
(17) Interest [\$]	0	0	0	0	0	0	0
(18) Cumulative Under Recovery [\$]	(13,067,112)	(12,389,460)	(16,413,841)	(14,795,223)	(14,199,444)	(10,347,088)	0

PROGRESS ENERGY CAROLINAS, INC.

SOUTH CAROLINA RETAIL FUEL CASE - DOCKET 2009-1-E
CALCULATION OF BASE FUEL COMPONENT
For the Year Ending June 30, 2010

1. Projected Fuel Expense from July 2009 through June 2010

Cost of Fuel	\$1,638,187,897	
System Sales	56,052,487	Mwhs
Average Cost Per kWh	2.923	cents / kWh

2. Revenue Difference To be Collected from July 2009 through June 2010

Under-Recovery at June 30, 2009	\$5,434,537	
Projected S.C. Retail Sales	6,839,341	Mwhs
Average Cost Per kWh	0.079	cents / kWh

3. Base Fuel Cost Per KWH - Projected Period

Average Fuel Cost	2.923	cents / kWh
Revenue Difference	0.079	cents / kWh
Base Fuel Component	3.002	cents / kWh

PROGRESS ENERGY CAROLINAS, INC.

Comparison of Estimated Fuel Revenues and Expenses

SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E

Line	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09
(1) Estimated SC Retail Sales (kWh)	524,541,306	509,505,343	520,373,648	589,990,972	637,415,392	673,114,991	611,838,266	540,238,217
(2) Estimated Fuel Cost [\$/KWH]	0.03047	0.02570	0.02909	0.03126	0.03475	0.03228	0.02689	0.02582
(3) Fuel Base [\$/KWH]	0.03151	0.03151	0.03151	0.03151	0.03002	0.03002	0.03002	0.03002
(4) Revenue Required	\$15,982,774	\$13,094,287	\$15,137,669	\$18,443,118	\$22,150,185	\$21,728,152	\$16,452,331	\$13,948,951
(5) Revenue Billed	\$16,528,297	\$16,054,513	\$16,396,974	\$18,590,616	\$19,135,210	\$20,206,912	\$18,367,385	\$16,217,951
(6) Over (Under) Recovery	\$545,523	\$2,960,226	\$1,259,305	\$147,498	(\$3,014,975)	(\$1,521,240)	\$1,915,054	\$2,269,000
(7) Cumulative Over (Under)-Recovery	(\$9,801,566)	(\$6,841,340)	(\$5,582,035)	(\$5,434,537)	(\$8,449,512)	(\$9,970,752)	(\$8,055,698)	(\$5,786,698)

Line	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
(8) Estimated SC Retail Sales (kWh)	492,867,550	548,689,530	620,630,254	554,592,012	528,169,836	513,126,392	523,874,267	594,784,112
(9) Estimated Fuel Cost [\$/KWH]	0.02630	0.02840	0.02808	0.02774	0.02979	0.02760	0.03031	0.03105
(10) Fuel Base [\$/KWH]	0.03002	0.03002	0.03002	0.03002	0.03002	0.03002	0.03002	0.03002
(11) Revenue Required	\$12,962,417	\$15,582,783	\$17,427,298	\$15,384,382	\$15,734,179	\$14,162,288	\$15,878,629	\$18,468,047
(12) Revenue Billed	\$14,795,884	\$16,471,660	\$18,631,320	\$16,648,852	\$15,855,658	\$15,404,054	\$15,726,705	\$17,855,419
(13) Over (Under) Recovery	\$1,833,467	\$888,877	\$1,204,022	\$1,264,470	\$121,479	\$1,241,766	(\$151,924)	(\$612,628)
(14) Cumulative Over (Under)-Recovery	(\$3,953,231)	(\$3,064,354)	(\$1,860,332)	(\$595,862)	(\$474,383)	\$767,383	\$615,459	\$2,831

PROGRESS ENERGY CAROLINAS, INC.

SYSTEM ENVIRONMENTAL COST

SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E
TWELVE MONTHS ENDED FEBRUARY 2009

Line	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Twelve Months Ended Feb-09
(1) Emission Allowances	\$1,462,251.96	\$1,543,445.46	\$1,049,194.82	\$1,622,708.76	\$1,605,663.75	\$1,178,368.46	\$8,941,688.93
(2) Ammonia	610,525.91	821,150.62	707,730.14	1,037,885.65	948,037.83	892,078.07	8,557,352.73
(3) Limestone	370,342.21	410,428.96	375,730.12	503,441.79	585,187.00	505,709.69	6,036,341.67
(4) Total Environmental Costs	2,443,120.08	2,775,025.04	2,132,655.08	3,164,036.20	3,138,888.58	2,576,156.22	23,535,383.33
(5) Total Off-System Sales [\$]	(352,949.67)	(608,461.89)	(294,619.72)	(57,869.31)	(13,062.53)	(11,822.48)	(2,918,803.70)
(6) Total Environmental Expense	\$2,090,170.41	\$2,166,563.15	\$1,838,035.36	\$3,106,166.89	\$3,125,826.05	\$2,564,333.74	\$20,616,579.63
(7) SC Retail Sales (kWh)	487,861,612	507,837,688	486,848,551	668,745,745	537,322,787	621,237,906	6,468,570,245
(8) Total System Sales (kWh) (Exclude Power Agency)	4,032,680,067	3,944,214,682	4,066,333,611	4,801,980,286	4,973,648,101	5,227,989,878	54,046,280,326
(9) SC Allocation Factor	0.1210	0.1288	0.1197	0.1393	0.1080	0.1188	
(10) SC Share of Total Environmental Costs	\$252,910.62	\$279,053.33	\$220,012.83	\$432,689.05	\$337,589.21	\$304,642.85	
(11) SC Share of Adjustments	-	-	-	119,166.65	-	-	
(12) Amount Billed to SC Customers [\$]	103,528	103,872	99,573	118,360	472,656	478,532	
(13) Over (Under) Recovery [\$]	(149,383)	(175,182)	(120,439)	(314,329)	135,066	173,889	
(14) Accounting Adjustments [\$]	-	-	-	119,167	-	-	
(15) Cumulative Over (Under) Recovery [\$]	(1,334,296)	(1,509,477)	(1,629,917)	(1,825,079)	(1,690,012)	(1,516,123)	
Line	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Twelve Months Ended Feb-09
(16) Emission Allowances	\$473,846.81	\$400,831.31	\$850,315.79	\$1,100,352.26	(\$529,591.33)	(\$1,815,699.12)	\$8,941,688.93
(17) Ammonia	649,211.70	410,170.42	387,221.81	447,030.01	860,175.10	786,135.47	8,557,352.73
(18) Limestone	464,471.11	413,294.24	526,220.32	532,679.39	765,478.05	583,358.79	6,036,341.67
(19) Total Environmental Costs	1,587,529.62	1,224,295.97	1,763,757.92	2,080,061.66	1,096,061.82	(446,204.86)	23,535,383.33
(20) Total Off-System Sales [\$]	(9,362.52)	(6,640.81)	(872.72)	(450,536.11)	(820,343.54)	(292,262.40)	(2,918,803.70)
(21) Total Environmental Expense	\$1,578,167.10	\$1,217,655.16	\$1,762,885.20	\$1,629,525.55	\$275,718.28	(\$738,467.26)	\$20,616,579.63
(22) SC Retail Sales (kWh)	602,076,260	477,219,452	438,179,130	534,197,173	546,585,617	560,458,324	6,468,570,245
(23) Total System Sales (kWh) (Exclude Power Agency)	4,922,971,918	4,040,812,569	4,165,354,776	4,360,907,069	4,845,157,296	4,664,230,073	54,046,280,326
(24) SC Allocation Factor	0.1223	0.1181	0.1052	0.1225	0.1128	0.1202	
(25) SC Share of Total Environmental Costs	\$193,009.84	\$143,805.00	\$185,456.00	\$199,616.88	\$31,101.02	(\$88,763.76)	\$2,491,122.87
(26) SC Share of Adjustments	-	-	-	-	-	-	\$119,166.65
(27) Amount Billed to SC Customers [\$]	443,762	365,240	366,223	449,602	465,333	471,127	\$3,937,808.49
(28) Over (Under) Recovery [\$]	250,752	221,435	180,767	249,985	434,232	559,891	\$1,446,685.62
(29) Accounting Adjustments [\$]	-	-	-	-	-	-	\$119,166.65
(30) Cumulative Over (Under) Recovery [\$]	(1,265,371)	(1,043,936)	(863,169)	(613,184)	(178,952)	380,939	

PROGRESS ENERGY CAROLINAS, INC.

SOUTH CAROLINA RETAIL FUEL CASE - DOCKET 2009-1-E
CALCULATION OF ENVIRONMENTAL FUEL COMPONENT
For the Year Ending June 30, 2010

Line	Class	Allocation Factor	Share of Projected Costs	Share of (Over)/Under-Recovery at June 30, 2009	Projected July 09 to June 10 SC Retail Sales (kWh)	Projected Demand Billing units (kW)	Projected Average Environmental Fuel Cost	(Over)/Under-Recovered Average Environmental Fuel Cost	Total Environmental Fuel Cost Component
(1)	Residential	41.58%	\$1,208,713	(\$418,636)	2,206,024,178		0.055 ¢/kWh	(0.019) ¢/kWh	0.036 ¢/kWh
(2)	General Service (non demand)	5.40%	\$157,036	(\$54,389)	327,091,347	-	0.048 ¢/kWh	(0.017) ¢/kWh	0.031 ¢/kWh
(3)	General Service (demand)	53.02%	\$1,541,502	(\$533,897)	4,214,726,076	9,180,193	0.17 ¢/kW [1]	(0.06) ¢/kW [1]	0.11 ¢/kW
(4)	Lighting	0.00%	\$0	\$0	91,499,216		0.000	0.000	0.000
(5)	Total	100.00%	\$2,907,250	(\$1,006,923)	6,839,340,817	9,180,193			

SC Environmental Cost Projection

(6)	Projected SC Retail Sales from July 09 to June 10	6,839,340,817
(7)	Projected Total System Sales from July 09 to June 10	56,052,486,801
(8)	Allocation percentage to SC	0.12202
(9)	Projected Environmental Costs July 09 to June 10	\$23,826,013
(10)	SC Allocation of Projected Costs	\$2,907,250

[1] Rate is based on the Demand Billing Units

PROGRESS ENERGY CAROLINAS, INC.

Comparison of Estimated Environmental Fuel Revenues and Expenses
SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E

Line	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09
(1) Estimated SO2 Expense [\$]	613,842	519,331	493,475	688,669	859,616	835,997	610,487	518,809
(2) Estimated Ammonia & Limestone Expense [\$]	1,585,234	1,357,527	1,467,674	1,588,777	1,700,571	1,678,034	1,433,436	1,402,184
(3) Estimated NOx Expense [\$]	28,377	28,479	55,907	76,266	98,737	94,440	66,381	28,449
(4) Estimated Off-System Sales [\$]	(361,821)	(129,099)	(139,170)	(144,862)	(204,809)	(198,921)	(162,344)	(180,326)
(5) Estimated Catalyst Depreciation [\$]	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>
(6) Estimated Total Environmental Expense [\$]	1,965,633	1,876,239	1,977,886	2,308,850	2,554,115	2,509,550	2,047,960	1,869,116
(7) Estimated SC Allocation Factor of Total Expense	<u>0.12363</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>
(8) SC Share of Total Environmental Expense [\$]	243,011	228,939	241,342	281,726	311,653	306,215	249,892	228,070
(9) Amount Billed to SC Customers [\$]	436,545	348,059	384,481	451,916	170,889	180,105	166,685	139,705
(10) Over (Under) Recovery [\$]	193,534	119,120	143,139	170,190	(140,764)	(126,110)	(83,207)	(88,365)
(11) Cumulative Under Recovery [\$]	574,474	693,594	836,733	1,006,923	866,159	740,049	656,842	568,477

Line	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10
(12) Estimated SO2 Expense [\$]	455,277	647,035	252,859	239,922	263,938	240,574	231,945	260,176
(13) Estimated Ammonia & Limestone Expense [\$]	1,451,105	1,601,411	1,625,887	1,538,603	1,642,587	1,256,986	1,592,798	1,621,644
(14) Estimated NOx Expense [\$]	25,224	32,643	43,186	39,869	44,822	39,443	73,533	83,579
(15) Estimated Off-System Sales [\$]	(189,279)	(203,835)	(237,646)	(204,408)	(172,120)	(89,765)	(142,902)	(19,817)
(16) Estimated Catalyst Depreciation [\$]	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>	<u>100,000</u>
(17) Estimated Total Environmental Expense [\$]	1,842,327	2,177,253	1,784,286	1,713,985	1,879,227	1,547,238	1,855,374	2,045,582
(18) Estimated SC Allocation Factor of Total Expense	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>	<u>0.12202</u>
(19) SC Share of Total Environmental Expense [\$]	224,801	265,668	217,719	209,141	229,303	188,794	226,393	249,602
(20) Amount Billed to SC Customers [\$]	<u>134,903</u>	<u>166,670</u>	<u>190,761</u>	<u>163,238</u>	<u>155,434</u>	<u>128,353</u>	<u>142,849</u>	<u>165,337</u>
(21) Over (Under) Recovery [\$]	(89,898)	(98,998)	(26,958)	(45,903)	(73,869)	(60,441)	(83,544)	(84,265)
(22) Cumulative Under Recovery [\$]	478,580	379,581	352,624	306,721	232,852	172,411	88,867	4,602

PROGRESS ENERGY CAROLINAS, INC.

SOUTH CAROLINA RETAIL FUEL CASE - DOCKET 2009-1-E
CALCULATION OF TOTAL FUEL COMPONENT
For the Year Ending June 30, 2010

Line	Class	Cents / KWH		Total Fuel Costs Factor	Increase For RECD
		Base Fuel Cost Component (from Exhibit No. 6)	Env. Cost Component (from Exhibit No. 10)		
(1)	Residential	3.002	0.036	3.038	3.063 [2]
(2)	General Service (non-demand)	3.002	0.031	3.033	3.033
(3)	General Service (demand)	3.002	0.000 [1]	3.002	3.002
(4)	Lighting	3.002	0.000	3.002	3.002

[1] The environmental rate for these customers is 11 cents per kW as shown on Exhibit No. 9.

[2] RECD factor is .83% and is calculated on Exhibit No. 12.

PROGRESS ENERGY CAROLINAS, INC.

SOUTH CAROLINA RETAIL FUEL CASE - Docket No. 2009-1-E
Revenue Adjustment Factors

Residential Adjustment Factor

1	Billed kWh (12ME 3/31/09)	Per Books	2,208,637,371
2	Billed RECD kWh (12ME 3/31/09)	Per Books	<u>366,880,259</u> (a)
3	RECD kWh Percent of Total Billed	Line 2 / Line 1	16.6112%
4	RECD Discount	RECD Discount	<u>5.0000%</u> (b)
5	RECD Impact (Weighted Discount)	Line 3 x Line 4	0.8306%

Notes:

- (a) Energy billed and discounted pursuant to Residential Energy Conservation Discount, Rider RECD-2B.
- (b) Five-percent discount provided under Residential Energy Conservation Discount, Rider RECD-2B.

Progress Energy Carolina's Coal Procurement Practices

1. **Estimate Fuel Requirements.** Fuel requirements are estimated annually using a long-term forecasting simulation model and monthly using a short-term simulation model. Both simulation models factor in load forecasts, system planning and capacity factors for all generating plants.
2. **Establish Inventory Requirements.** PEC uses historic inventory patterns to determine current inventory levels. Currently, we keep coal inventories between 40 – 45 days, depending on the season of the year.
3. **Monitor Ongoing Fuel Requirements.** On an ongoing basis, there is a review and evaluation of current inventory levels, supplier performance and forecasted short-term requirements and commitments to determine additional fuel requirements.
4. **Develop Qualified Supplier List.** A list of qualified suppliers is maintained throughout the year and, to the extent possible, capabilities of suppliers are evaluated including current performance, reserves, coal quality, railroad origination, condition of supplier and loading capabilities.
5. **Bid Requests.** At least once a year, a formal solicitation is sent out to all qualified suppliers for spot and/or longer term coal. PEC seeks staggered expiration terms to reduce the impact of market volatility on customer rates.
6. **Bid Evaluation.** Contracts are awarded after a thorough evaluation process including an economic evaluation, financial and credit review of

the supplier, performance evaluation, coal quality conformance with plant requirements, supplier quality controls, test burns (if necessary) and compliance with federal environmental regulations.

7. **Spot Purchases.** To supplement our fuel supply, short-term spot offers are solicited as needed and purchases made in accordance to needs. These purchases may be limited to a single train.
8. **Monitoring of Purchases.** Purchases are administered, monitored and expedited as needed to ensure compliance with contractual terms.
9. **Quality Control.** The Company requires suppliers to sample, analyze and weigh all coal shipped under the agreements using independent third party labs (ASTM Standards) and certified scales. Three to four samples are typical with one sample being a referee sample should a dispute arise. Sample analyses are used for contractual quality pricing adjustments. Weighing is done at the mine using certified scales and, if no scales are certified at the mine, certified railroad scales are used.